*THIS OPINION WAS NOT WRITTEN FOR PUBLICATION*

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* JOHN TEXTER and ROLAND G. WILLIS

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Appeal No. 1996-3955
Application 08/170,601

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ON BRIEF

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Before JOHN D. SMITH, OWENS and LIEBERMAN, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is an appeal from the examiner's final rejection of claims 1-14, 16, 17, 19 and 21-26. Claim 15, which is the only other claim remaining in the application, stands objected to as being dependent from a rejected claim.

*THE INVENTION*

Appellants claim an aqueous developable photographic element and a chromogenic diffusion transfer process for forming a neutral photographic image. Claims 1 and 2 are illustrative and are appended to this decision.

*THE REFERENCES*

*References relied upon by the examiner*

| | | |
|---|---|---|
| Cole | 3,635,707 | Jan. 18, 1972 |
| Hara et al. (Hara) | H456 | Apr. 5, 1988 |
| Schenk et al. (Schenk) | 4,816,372 | Mar. 28, 1989 |
| Peters et al. (Peters) | 4,840,885 | Jun. 20, 1989 |
| Texter et al. (Texter) | 5,164,280 | Nov. 17, 1992 |
| Komamura (JP '751) (Japanese Kokai) | 4-73751 | Mar. 9, 1992 |

*References relied upon by appellants*

| | | |
|---|---|---|
| Masukawa et al. (Masukawa) | 4,584,267 | Apr. 22, 1986 |
| Bailey et al. (Bailey) | 5,352,561 | Apr. 16, 1993 |

*THE REJECTION*

Claims 1-14, 16, 17, 19 and 21-26 stand rejected under 35

U.S.C. § 103 as being unpatentable over the combined teachings of Texter, JP '751, Cole, Hara, Schenk and Peters.

*OPINION*

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the

aforementioned rejections are not well founded. Accordingly, we reverse these rejections. Under the provisions of 37 CFR § 1.196(b) we enter a new ground of rejection of claims 1, 4/1, 5/1, 6/5/1, 7/1, 8/7/1, 9/1-14/1, 16/1 and 17/1.

*New ground of rejection*

Claims 1, 4/1, 5/1, 6/5/1, 7/1, 8/7/1, 9/1-14/1, 16/1 and 17/1 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants regard as the invention.

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light

of appellants' specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. *See In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Appellants' claim 1 states that the couplers and silver halide are "balanced according to a diffusion-transfer-convoluted eye-response." The definition of this phrase which appellants rely upon (brief, page 6) is the following (specification, page 20, lines 12-19):

> The combination of this balancing, according to the above described transfer coefficient relation of Equation (1), and the utilization of particular ratios of red, green, and blue sensitized emulsions according to the above discussed eye response or according to other enhanced visual discrimination criteria, is defined herein to denote "diffusion-transfer-convoluted eye-response".

Regarding Equation (1), appellants state the following (specification, page 19, line 32 - page 20, line 4):

> We define the transfer coefficient $T_{ijkl}$ as relating the density of dye *j* obtained in the receiver from imaging layer *i* (denoting distance to

> receiver, binder types and levels, receiver polymers, thermal solvent types, levels, and distributions, etc.) when developed according to process *k* (eg., developer type, developer, stop, wash processing sequence) and heated according to regimen *l* (eg., time, temperature, pressure conditions), $D_{ijkl}$, to the density of dye *j* generated in imaging layer *i* during the process *k*, $G_{ijk}$:
>
> $$D_{ijkl} = T_{ijkl} \times G_{ijk} \qquad \text{Eqn. (1)}$$
>
> These transfer coefficients provide practical guides and means by which to design formulations and processes by which to adequately "balance" the placement, relative amount, and distribution of cyan, magenta, and yellow dye-forming couplers.

The disclosed factors for use in calculating the transfer coefficients are not specified. Instead, only examples of the factors are given. Thus, these factors appear to be arbitrary. Also, any arbitrarily selected enhanced visual discrimination criteria can be used to determine the transfer coefficients. Because the basis for the determination of the transfer coefficients is so vaguely stated in the specification, it is not possible to determine the scope of "a diffusion-transfer-convoluted eye-response" in claim 1. This is not a case in which such a term is merely broad. Breadth does not necessarily render a claim indefinite. *See In re Gardner*, 427 F.2d 786, 788, 166 USPQ 138, 140 (CCPA 1970)

("Breadth is not indefiniteness."); *In re Borkowski*, 422 F.2d 904, 909, 164 USPQ 642, 645-46 (CCPA 1970). For the above reasons, claim 1, as it would have been interpreted by one of ordinary skill in the art in view of the specification and prior art, fails to set out and circumscribe a particular area with a reasonable degree of precision and particularity. Consequently, claim 1 and the claims which depend therefrom are indefinite.

In some instances, it may be impossible to determine whether or not claimed subject matter is anticipated by or would have been obvious over references because the claims are so indefinite that considerable speculation and assumptions would be required regarding the meaning of terms employed in the claims with

respect to the scope of the claims. *See In re Steele*, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). In other instances, however, it is possible to make a reasonable, conditional interpretation of claims adequate for the purpose

of resolving patentability issues to avoid piecemeal appellate review. In the interest of administrative and judicial economy, this course is appropriate wherever reasonably possible. *See Ex parte Saceman*, 27 USPQ2d 1472, 1474 (Bd. Pat. App. & Int. 1993); *Ex parte Ionescu*, 222 USPQ 537, 540 (Bd. App. 1984).

In the present case, we consider such a reasonable, conditional interpretation to be possible. This interpretation is that "balanced according to a diffusion-transfer-controlled convoluted eye-response" means that the cyan, magenta and yellow heat diffusible dye-forming couplers are balanced in any manner which provides the neutral image required by the preamble of claim 1.

*Rejection under 35 U.S.C. § 103*

Appellants argue that the alkali insolubility and heat transferability of appellants' diffusible-dye-forming couplers set them apart from the couplers of Cole, Hara, Peters and Schenk

(brief, page 9), and that these references disclose use of aqueous alkaline diffusion transfer dyes which Masukawa indicates would not work in appellants' elements and process (reply brief, page 6). Thus, appellants argue, one of ordinary skill in the art would have been led away by Cole, Hara, Peters and Schenk from using appellants' dyes (reply brief, pages 6-7). Appellants further argue that the dye immobilization during the aqueous dye transfer of Cole, Hara, Peters and Schenk occurs essentially chemically irreversibly due to very strong charge and dipole interactions between the solubilizing groups of the diffusing dyes and the cationically charged groups of the receiving layer image fixing polymer, whereas appellants' dye diffusion transfer does not have this irreversibility and is more like an equilibrium, depending more on the relative solubility of diffusible dye in the receiving polymer relative to the thermal solvent loaded hydrophilic binder of the image dye forming layers (reply brief, page 8). Consequently, appellants argue, appellants' system and those of these references are chemically and mathematically diffusionally distinguishable so that balancing in the systems of these references would not have led

one of ordinary skill in the art to the balancing in appellants' element and process. *See id*. Appellants argue, in reliance upon Bailey, that JP '751 teaches away from using appellants' thermal solvents (reply brief, pages 9-10) and, with respect to claims 2 and 3 and the claims which depend therefrom, argue that this reference teaches away from eliminating bleaching and fixing steps (reply brief, pages 8-9).

The examiner argues that because the combined teachings of Hara, Schenk, Peters and Cole show that either color or black and white dye transfer images may be formed by diffusion transfer processes, including both wet processes and heat development of silver halide elements to form transferable dyes, and Hara discloses the advantage of using heat transfer of dyes to form black and white images free of residual silver or silver halide, it would have been obvious to one of ordinary skill in the art to use balanced mixtures of heat diffusible dye forming compounds of Texter for forming black and white transfer images not containing silver or silver halide (answer, pages 5 and 8). The examiner argues that

because JP ‘751 discloses the use of thermal solvents to aid dye transfer in processes such as that of Texter, where

alkali insoluble dyes are formed by aqueous development and then heat transferred, it would have been obvious to one of ordinary skill in the art to use the JP ‘751 thermal solvents in the Texter process (answer, page 6).

Appellants’ technical arguments appear to be plausible and the examiner has not addressed the specifics of these arguments and provided an explanation as to why the arguments are wrong, or explained why, in spite of the differences argued by appellants between the prior art and appellants’ element and process, one of ordinary skill in the art would have been led by the applied references to appellants’ claimed element and process. The examiner does not discuss the teachings of the references as a whole when explaining his rejection, and does not specifically address appellants’ technical reasoning in support of their arguments that the teachings of the references as a whole would not have fairly suggested appellants’ claimed invention to one of ordinary

skill in the art.

For the above reasons, we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the invention recited in any of appellants' claims. Accordingly, we reverse the examiner's rejection.

*DECISION*

The rejection of claims 1-14, 16, 17, 19 and 21-26 under 35 U.S.C. § 103 over the combined teachings of Texter, JP '751, Cole, Hara, Schenk and Peters is reversed. Under the provisions of 37 CFR § 1.196(b) a new ground of rejection of claims 1, 4/1, 5/1, 6/5/1, 7/1, 8/7/1, 9/1-14/1, 16/1 and 17/1 has been entered.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

*REVERSED, 37 CFR § 1.196(b)*

JOHN D. SMITH )
Administrative Patent Judge )
)
)
)
TERRY J. OWENS ) BOARD OF PATENT

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| Administrative Patent Judge | ) | APPEALS AND |
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*APPENDIX*

1. An aqueous developable photographic element for forming neutral images comprising balanced cyan, magenta, and yellow heat-diffusible-dye-forming couplers in one or more image forming layers, and further comprising sensitized silver halide, a thermal solvent for nonaqueous, thermal dye-diffusion transfer, and hydrophilic binder, each independently in one or more image forming layers, an integral receiver layer for dye mordanting during nonaqueous, thermal dye-diffusion transfer, and one and only one dimensionally stable support, where said receiver layer is intermediate said support and image forming layers, wherein said receiver layer and said support may be mechanically separated from said image forming layers by opposing forces, and wherein heat-diffusible-dye obtained from said heat-diffusible-dye forming couplers is substantially insoluble and nondiffusible in aqueous medium of pH 7 to 13, and wherein said balanced cyan, magenta, and yellow heat-diffusible-dye-forming couplers and said sensitized silver halide are balanced according to a diffusion-transfer-convoluted eye-response.

2. A chromogenic diffusion transfer process for forming a neutral photographic image comprising the steps of:

providing an aqueous developable photographic element for forming neutral images comprising balanced cyan, magenta, and yellow heat-diffusible-dye-forming couplers in one or more image forming layers, and further comprising sensitized silver halide, a thermal solvent for nonaqueous, thermal dye-diffusion transfer, and hydrophilic binder, each independently in one or more image forming layers, an integral receiver layer for dye mordanting during nonaqueous, thermal dye-diffusion transfer, and one and only one dimensionally stable support, where said receiver layer is intermediate said support and image forming layers, wherein said receiver layer and said support may be mechanically separated from said image forming layers by opposing forces, and wherein heat-diffusible-dye obtained from said heat-diffusible-dye forming couplers is substantially insoluble and nondiffusible in aqueous medium of pH 7 to 13;

exposing said element to actinic radiation;

processing said element by contacting said element to an external aqueous bath containing compounds selected from the

group consisting essentially of color developer compounds of the primary amine type, compounds which activate the release of incorporated color developers, and compounds which activate development by incorporated developers;

washing said element;

drying said element to remove imbibed water;

heating said element to effect dye-diffusion transfer to said integral receiver layer; and

separating said integral receiver layer from said image forming layers,

wherein bleaching and fixing steps are excluded from said chromogenic diffusion transfer process.